

**REMARKS**

Claims 1-10 are pending in the present application. Claims 1 and 2 have been amended. Claims 11-18 have been withdrawn and the text of the claims are included.

Claims 3, 7, and 9 were rejected under 35 USC §112, second paragraph as being indefinite. Claim 1 has been amended to include an additional limitation. A "projection" in claim 1 provides antecedent basis for "the projection" in claims 3, 7 and 9. These claims are definite.

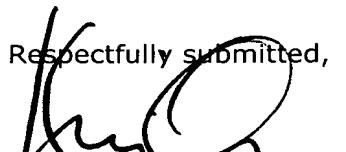
Claims 1, 3, 5, 7, and 9 were rejected under 35 USC §102(e) as being anticipated by US Patent No. 6672436 (*Keil*). Claim 1 is a bottom valve apparatus with numerous limitations including that "the inner peripheral edge of the aperture [of the check valve] has a smaller diameter than an outer diameter of the projection" of the fixing member. The fixing member of *Keil* is a nut and bolt. The inner peripheral edge of the bore of the valve disk of *Keil* is larger than the outer peripheral edge of the bottom projection of the nut. See, e.g. Figs 3 and 4 of *Keil*. Thus, *Keil* does not teach or suggest a bottom valve with all the limitations of claim 1. Claim 1 and claims 2-10 that depend therefrom are thus patentable.

Claims 2, 4, 6, 8 and 10 were rejected under 35 USC §103(a) as being unpatentable over *Keil* in view of US Patent No. 3321051 (*Heckethorn*). Claims 2, 4, 6, 8, and 10 depend from claim 1 and thus have all the limitations of claim 1. As discussed above, *Keil* does not teach or suggest a bottom valve with all the limitations of claim 1. *Heckethorn* does not make up the deficiencies in *Keil*. Thus, claims 2, 4, 6, 8 and 10 are not taught or suggested by the prior art of record and is patentable.

**CONCLUSION**

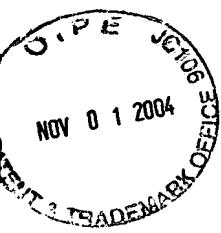
Applicant asserts that all of the objections have been obviated and, therefore now respectfully requests withdrawal of the objections, and allowance of the application.

Respectfully submitted,

  
Keith H. Orum  
Attorney for Applicant  
Attorney Registration 33985

**ORUM & ROTH**  
53 WEST JACKSON BOULEVARD  
CHICAGO, ILLINOIS 60604-3606  
312.922.6262 PHONE  
312.922.7747 FAX

Applicant: SHOWA CORPORATION  
Serial Number: 10/636119  
Attorney Docket: 13546  
Page 6



**1<sup>ST</sup> CLASS CERTIFICATE OF MAILING**

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner of Patents and Trademarks, Alexandria, VA 22313-1450, on October 29, 2004.

*Chrissy Stein*  
Chrissy Stein

145.13546